



## Center for Health Statistics



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DATA  
SUMMARY  
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This Data Summary is one of a series of leading cause of death reports.

### Highlights

- The chronic liver disease and cirrhosis crude death rate for California was 10.7 deaths per 100,000 population in 2001.
- During 2001, the California chronic liver disease and cirrhosis age-adjusted death rate (11.5) was higher than the U.S. rate (9.4).
- In 2001, Hispanics had a chronic liver disease and cirrhosis age-adjusted death rate significantly higher than Blacks, Whites, and Asian/Other.

## Chronic Liver Disease and Cirrhosis Deaths in California, 2001

By Daniel H. Cox

### Introduction

Chronic liver disease and cirrhosis has been historically one of the leading causes of death in the United States and in California. There are many risk factors for chronic liver disease and cirrhosis such as excessive alcohol consumption, chronic viral hepatitis, congenital and inherited diseases, and prolonged exposure to environmental toxins. But the primary risk factor is excessive alcohol consumption. Currently, nearly 14 million Americans abuse alcohol or are alcoholic.<sup>1</sup> The impact of alcohol abuse on chronic liver disease in this country is immense.

This report presents the most current data on chronic liver disease and cirrhosis deaths, and provides analysis of crude and age-adjusted death rates for California residents by sex, age, race/ethnicity, and county. This report presents data for the year 2001. The definition of chronic liver disease and cirrhosis used in this report is based on the International Classification of Diseases, Tenth Revision (ICD-10) codes K70, K73, and K74 currently presented in the National Center for Health Statistics (NCHS) Monthly Vital Statistics Report.<sup>2</sup>

### Chronic Liver Disease and Cirrhosis Deaths

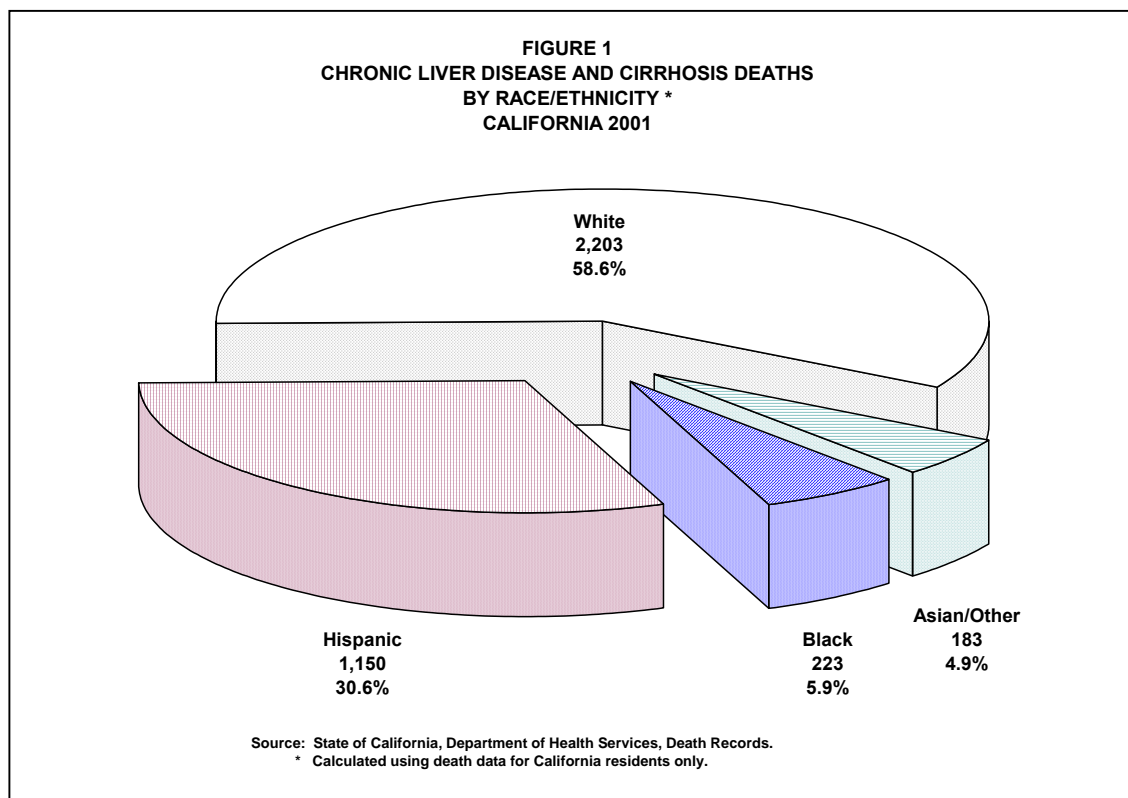
**Table 1** (page 9) displays chronic liver disease and cirrhosis death data for 2001 by race/ethnicity, age, and sex. Chronic liver disease and cirrhosis deaths occur almost exclusively among the adult population, and this held true in 2001 with a large number of deaths occurring in the 35 to 44 age group and continuing through all the older age groups (**Table 1**, page 9). During this period, the number of deaths attributed to chronic liver disease and cirrhosis was 2.0 times higher among males (2,524) than among females (1,235).

As shown in **Figure 1** (page 2), the number of chronic liver disease and cirrhosis deaths among Whites (2,203) was higher than Hispanics (1,150), Blacks (223), and Asian/Other (183).

<sup>1</sup> National Institute on Alcohol Abuse and Alcoholism. Alcoholism, Getting the Facts, NIH Publication Number 96-4153, Revised 2001.

<sup>2</sup> National Center for Health Statistics, Deaths: Preliminary Data for 1999, National Vital Statistics Reports, DHHS Pub. No. (PHS) 2001-1120, PRS 01-0358, June 2001; Volume 49, Number 3.

A brief overview of [data limitations and qualifications](#) is provided at the end of this report.



## Chronic Liver Disease and Cirrhosis Crude Death Rates

The chronic liver disease and cirrhosis crude death rate for California increased slightly from 10.6 deaths per 100,000 population in 2000 to 10.7 in 2001.<sup>3</sup> As shown in **Table 1** (page 9), Whites had the highest crude death rate in 2001, a rate of 12.6. Hispanics were next with a crude rate of 10.4, followed by Blacks with a rate of 9.5, and Asian/Other with a rate of 4.2. Three of these four rates increased from 2000 when Whites had a chronic liver disease and cirrhosis crude death rate of 12.4, Blacks had a rate of 9.2, and Asian/Other had a rate of 4.0. The rate for Hispanics decreased slightly from 2000, when the rate was 10.5. None of these differences were statistically significant.

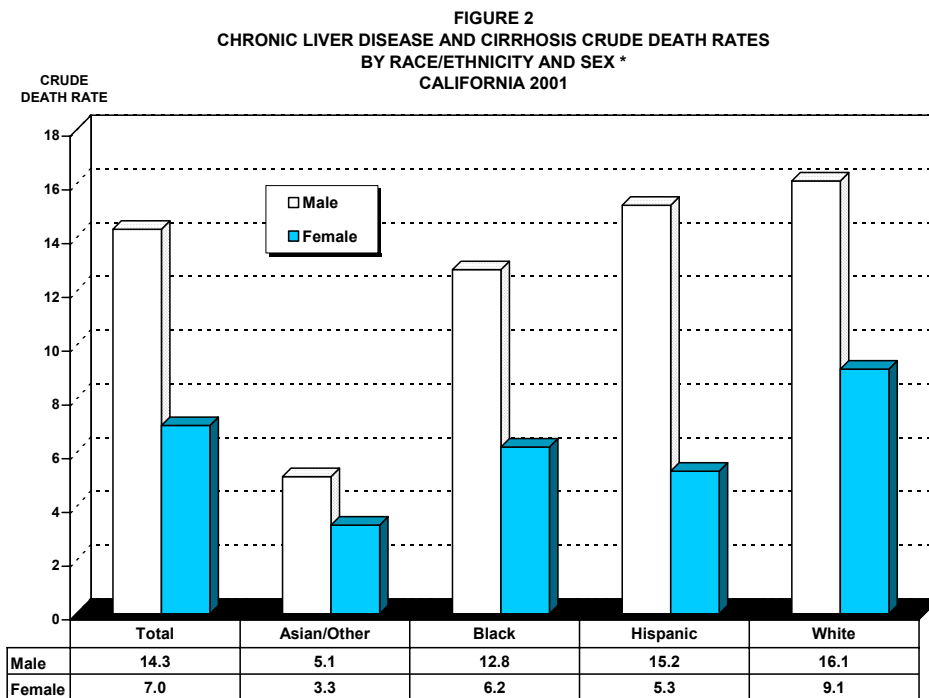
**Figure 2** (page 3) shows that in 2001, males in all four race/ethnic groups had significantly higher chronic liver disease and cirrhosis crude death rates than females in the corresponding groups. White males had a rate of 16.1 deaths per 100,000 population and White females had a rate of 9.1. Hispanic males had a rate of 15.2 and Hispanic females had a rate of 5.3. Black males had a rate of 12.8 and Black females had a rate of 6.2. Asian/Other males had a rate of 5.1 and Asian/Other females had a rate of 3.3.

## Chronic Liver Disease and Cirrhosis Age-Specific Death Rates

In **Table 1** (page 9), reliable age-specific rates show that among the sexes in 2001, males consistently had higher chronic liver disease and cirrhosis death rates than females. This held true among Whites, Hispanics, and Blacks. Among Asian/Other, none of the rates could be compared because of a lack of reliability.

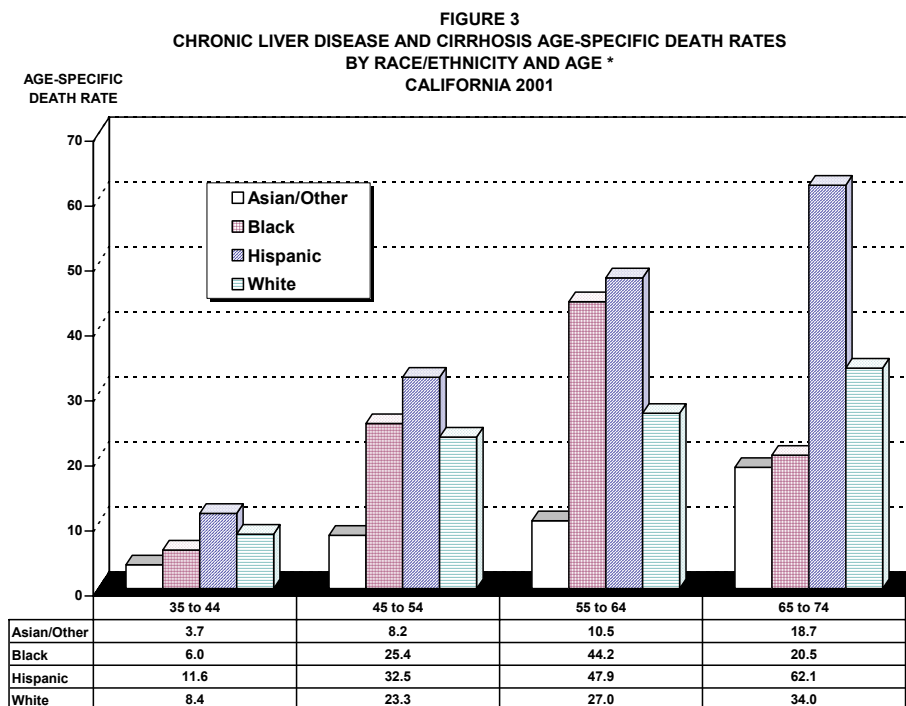
<sup>3</sup> Cox D. Chronic Liver Disease and Cirrhosis Deaths in California, 1999-2000. Data Summary. Center for Health Statistics, California Department of Health Services, September 2002.

See the [Methodological Approach Section](#) later in this report for an explanation of crude, age-specific, and age-adjusted death rates.



Source: State of California, Department of Health Services, Death Records.  
\* Calculated using death data for California residents only.

**Figure 3** shows that in 2001, among the age groups with reliable rates, Hispanics had higher chronic liver disease and cirrhosis age-specific death rates than the other three race/ethnic groups. These differences were statistically significant in the 35 to 44, 45 to 54, 65 to 74 age groups.



Source: State of California, Department of Health Services, Death Records.  
\* Calculated using death data for California residents only.

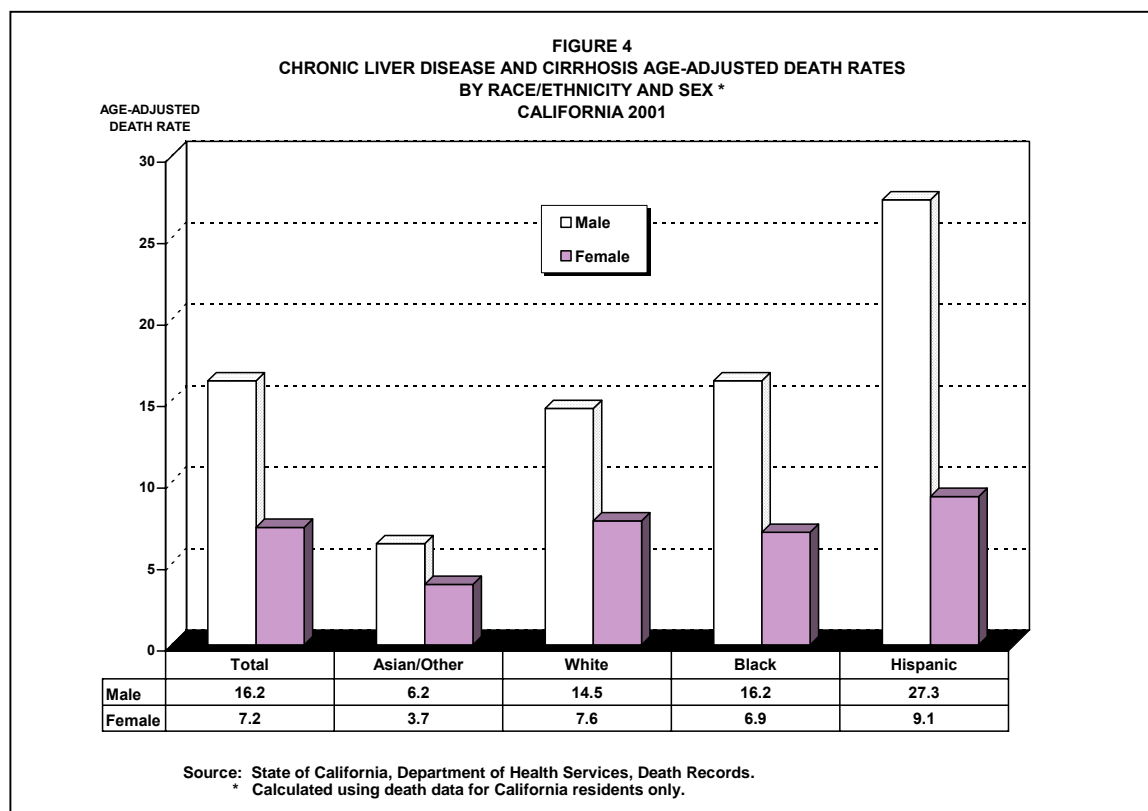
See the Vital Statistics Query System (VSQ) at our Web site [www.dhs.ca.gov/hisp/Applications/vsq/vsq.cfm](http://www.dhs.ca.gov/hisp/Applications/vsq/vsq.cfm) to create your own vital statistics tables.

Not shown in **Figure 3** (page 3), but displayed in **Table 1** (page 9), are the chronic liver disease and cirrhosis age-specific death rates for the 25 to 34 age group where Hispanics (1.5) had the highest rate, and Whites (1.1) had a lower rate. The rates for Asian/Other and Blacks were unreliable for this age group. In the 75 to 84 age group, Hispanics (59.0) had the highest death rate while Whites (29.4) had a lower rate. The rates for Blacks and Asian/Other were unreliable for this age group. In the 85 and Older age group Whites (19.4) had the only reliable rate.

## Chronic Liver Disease and Cirrhosis Age-Adjusted Death Rates

In 2001 the United States chronic liver disease and cirrhosis age-adjusted death rate (9.4 per 100,000 population) was lower than the California rate (11.5).<sup>4</sup> During this period, California did not meet the *Healthy People 2010* objective of no more than 3.0 chronic liver disease and cirrhosis age-adjusted deaths per 100,000 population.<sup>5</sup>

Displayed in **Table 1** (page 9), a comparison among the race/ethnic groups shows that in 2001 Hispanics had an age-adjusted death rate (17.9) significantly higher than Blacks (11.2), Whites (10.9), and Asian/Other (4.9). The only change in the age-adjusted death rates from 2000 was an increase for Asian/Other (4.8 in 2000) and a decrease for Hispanics (18.3 in 2000).<sup>3</sup> Neither of these changes were statistically significant. There was no change in the rates for Blacks or Whites.



<sup>4</sup> National Center for Health Statistics, Deaths: Preliminary Data for 2001, National Vital Statistics Reports, DHHS Pub. No. (PHS) 2003-1120, PRS 03-0165, March 2003; Vol. 51, No. 5.

<sup>5</sup> U.S. Department of Health and Human Services. *Healthy People 2010* Volume II. Washington DC: U.S. Government Printing Office, November 2000.

For more data, see DHS Center for Health Statistics, Home Page at [www.dhs.ca.gov/org/hisp/chs/chsindex.htm](http://www.dhs.ca.gov/org/hisp/chs/chsindex.htm)

As shown in **Figure 4** (page 4), in 2001 the chronic liver disease and cirrhosis age-adjusted death rate for males was higher than for females in all four of the race/ethnic groups. Hispanic males (27.3) had a higher rate than Hispanic females (9.1). This pattern was the same for Black males (16.2) and females (6.9), White males (14.5) and females (7.6), and Asian/Other males (6.2) and females (3.7). All of these differences were statistically significant. There were no statistically significant changes from 2000 to 2001 within any of these specific sex and race/ethnic groups.<sup>3</sup>

## Chronic Liver Disease and Cirrhosis Death Data for California Counties

**Table 2** (page 10) displays the number of deaths, crude death rates, and age-adjusted death rates by county averaged over a three-year period, 1999 to 2001. This averaging is done to reduce the large fluctuations in the death rates that are inherent among counties with a small number of events and/or population.

The highest average number of chronic liver disease and cirrhosis deaths occurred in Los Angeles County (1,059.3) and the lowest in Alpine and Sierra Counties (0.3).

The highest and lowest reliable chronic liver disease and cirrhosis crude death rates were in Imperial County (16.4 per 100,000 population) and San Mateo County (7.5), respectively.

The ranking for chronic liver disease and cirrhosis age-adjusted death rates again showed Imperial County with the highest reliable rate (21.3 deaths per 100,000 population) and San Mateo County with the lowest (7.1).

**TABLE 3**  
**CHRONIC LIVER DISEASE AND CIRRHOSIS DEATHS**  
**AMONG THE LOCAL HEALTH JURISDICTIONS \***  
**CALIFORNIA 1999-2001**

LOCAL HEALTH JURISDICTION	NUMBER OF DEATHS (Average)	2000 POPULATION	CRUDE DEATH RATE
BERKELEY	5.0	102,743	4.9 +
LONG BEACH	51.7	461,522	11.2
PASADENA	18.0	133,936	13.4 +

Note: Rates are per 100,000 population. Data is ICD-10 codes K70, K73, K74.

\* Calculated using death data for California residents only.

+ Death rate unreliable, relative standard error is greater than or equal to 23 percent.

Source: State of California, Department of Finance, Report E-4,  
2000 Revised Historical Estimates of California Cities and Counties, March 2002.  
State of California, Department of Health Services, Death records.

## Chronic Liver Disease and Cirrhosis Death Data by City Health Jurisdiction

You can read more about crude and age-adjusted rates on the National Center for Health Statistics Web site at [www.cdc.gov/nchs/](http://www.cdc.gov/nchs/)

**Table 3** (page 5) displays the number of deaths and crude death rates for California's three city health jurisdictions averaged over a three-year period, 1999 to 2001. Age-adjusted death rates were not calculated for the city health jurisdictions because city population estimates by age were not available.

The city of Long Beach had an average of 51.7 chronic liver disease and cirrhosis deaths, Pasadena had 18.0, and Berkeley had 5.0.

Pasadena had a chronic liver disease and cirrhosis crude death rate of 13.4 deaths per 100,000 population, Long Beach had a crude rate of 11.2, and Berkeley had a crude rate of 4.9. Though the rates for Pasadena and Berkeley were not reliable.

### Methodological Approach

The methods used to analyze vital statistics data are important. Analyzing only the number of deaths has its disadvantages and can be misleading because the population at risk is not taken into consideration. Crude death rates show the actual rate of dying in a given population, but because of the differing age compositions of various populations, crude rates do not provide a statistically valid method for comparing geographic areas and/or multiple reporting periods. Age-specific death rates are the number of deaths per 100,000 population in a specific age group, and are used along with standard population proportions to develop a weighted average rate. This rate is referred to as an age-adjusted death rate and removes the effect of different age structures of the populations whose rates are being compared. Age-adjusted death rates therefore provide the preferred method for comparing different race/ethnic groups, sexes, and geographic areas and for measuring death rates over time. The year 2000 population standard is used as the basis for age-adjustments in this report.

### Data Limitations and Qualifications

The chronic liver disease and cirrhosis death data presented in this report are based on vital statistics records with ICD-10 codes K70, K73 and K74 as defined by the National Center for Health Statistics.<sup>2</sup> Deaths by place of residence means that the data include only those deaths occurring among residents of California and its counties, regardless of the place of death.

The term "significant" within the text indicates statistically significant based on the difference between two independent rates ( $p < .05$ ).

As with any vital statistics data, caution needs to be exercised when analyzing small numbers, including the rates derived from them. Death rates calculated from a small number of deaths and/or population tend to be unreliable and subject to significant variation from one year to the next. To assist the reader, 95 percent confidence intervals are provided in the data tables as a tool for measuring the reliability of the death rates. Rates with a relative standard error (coefficient of variation) greater than or equal to 23 percent are indicated with an asterisk (\*).

Beginning in 1999, cause of death is reported using ICD-10.<sup>6</sup> Cause of death for 1979 through 1998 was coded using the International Classification of Diseases, Ninth Revision (ICD-9). Depending on the specific cause of death, the number of deaths and death rate are not comparable between ICD-9 and ICD-10. Therefore, our analyses do not combine both ICD-9 and ICD-10 data.

The four race/ethnic groups presented in the tables are mutually exclusive. White, Black, and Asian/Other exclude Hispanic ethnicity, while Hispanic includes any race/ethnic group. In order to remain consistent with the population data obtained from the Department of Finance, the “White race/ethnic group” includes: White, Other (specified), Not Stated, and Unknown; and the “Asian/Other race/ethnic group” includes: Aleut, American Indian, Asian Indian, Asian (specified/unspecified), Cambodian, Chinese, Eskimo, Filipino, Guamanian, Hawaiian, Japanese, Korean, Laotian, Other Pacific Islander, Samoan, Thai, and Vietnamese. In addition, caution should be exercised in the interpretation of mortality data by race/ethnicity. Misclassification of race/ethnicity on the death certificate may contribute to death rates that may be underestimated among Hispanics and Asian/Other.<sup>7</sup>

Beginning in 2000, federal race/ethnicity reporting guidelines changed to allow the reporting of up to three races on death certificates. The race/ethnic groups in this report were tabulated based on the first listed race on those certificates where more than one race was listed. Race groups for 2000 are therefore not strictly compatible with prior years and trends should be viewed with caution.

Effective with 1999 mortality data, the standard population for calculating age adjustments was changed from the 1940 population standard to the year 2000 population standard, in accordance with new statistical policy implemented by the National Center for Health Statistics. The new population standard affects measurement of mortality trends and group comparisons. Of particular note are the effects on race comparison of mortality.<sup>8</sup> Age-adjusted rates presented in this report are not comparable to rates calculated with different population standards.

In addition, the population data used to calculate the crude rates in **Table 3** (page 5) differ from the population data used to calculate the crude rates in **Table 2** (page 10). Consequently, caution should be exercised when comparing the crude rates among the three health jurisdictions with the rates among the 58 California counties. Age-adjusted rates for local city health jurisdictions were not calculated.

For a more complete explanation of the age-adjusting methodology used in this report, see the “Healthy People 2010 Statistical Notes” publication.<sup>9</sup> Detailed information on data quality and limitations are presented in the appendix of the annual report,

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<sup>6</sup> World Health Organization. International Statistical Classification of Diseases and Related Health Problems. Tenth Revision. Geneva: World Health Organization. 1992.

<sup>7</sup> Rosenberg HM, et al. Quality of Death Rates by Race and Hispanic Origin: A Summary of Current Research, 1999. Vital and Health Statistics, Series 2 No.128, National Center for Health Statistics, DHHS Pub. No. (PHS) 99-1328, September 1999.

<sup>8</sup> Anderson RN, Rosenberg HM. Age Standardization of Death Rates: Implementation of the Year 2000 Standard. National Vital Statistics reports; Vol. 47 No. 3, Hyattsville, Maryland: National Center for Health Statistics.

<sup>9</sup> Klein RJ, Schoenborn CA. Healthy People 2010 Statistical Notes: Age Adjustment using the 2000 Projected U.S. Population. National Center for Health Statistics, DHHS Publication, No. 20, January 2001.



Some of the [earlier reports](#) on this subject are available online.

“Vital Statistics of California”.<sup>10</sup> Formulas used to calculate death rates are included in the technical notes of the “County Health Status Profiles” report.<sup>11</sup>

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<sup>10</sup> Riedmiller K, Ficenec S, Bindra K, Christensen J. Vital Statistics of California 1999. Center for Health Statistics, California Department of Health Services, April 2002.

<sup>11</sup> Schmidt C, Wilson C. County Health Status Profiles 2003. Center for Health Statistics, California Department of Health Services, April 2003.



**TABLE 1**  
**CHRONIC LIVER DISEASE AND CIRRHOSIS DEATHS**  
**BY RACE/ETHNICITY, AGE, AND SEX**  
**CALIFORNIA, 2001**  
**(By Place of Residence)**

AGE GROUPS	DEATHS			POPULATION			RATES			95% CONFIDENCE LIMITS					
	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL		MALE		FEMALE	
										LOWER	UPPER	LOWER	UPPER	LOWER	UPPER
TOTAL															
Under 1	1	0	1	560,999	286,873	274,126	0.2 *	0.0 +	0.4 *	0.0	0.5	-	-	0.0	1.1
1 to 4	0	0	0	2,243,262	1,147,543	1,095,719	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
5 to 14	0	0	0	5,672,643	2,906,408	2,766,235	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
15 to 24	4	2	2	4,753,513	2,467,107	2,286,406	0.1 *	0.1 *	0.1 *	0.0	0.2	0.0	0.2	0.0	0.2
25 to 34	58	43	15	4,918,489	2,594,607	2,323,882	1.2	1.7	0.6 *	0.9	1.5	1.2	2.2	0.3	1.0
35 to 44	495	331	164	5,765,426	2,956,340	2,809,086	8.6	11.2	5.8	7.8	9.3	10.0	12.4	4.9	6.7
45 to 54	1,104	791	313	4,674,074	2,325,619	2,348,455	23.6	34.0	13.3	22.2	25.0	31.6	36.4	11.9	14.8
55 to 64	858	606	252	2,862,622	1,396,328	1,466,294	30.0	43.4	17.2	28.0	32.0	39.9	46.9	15.1	19.3
65 to 74	716	459	257	1,976,584	916,584	1,060,000	36.2	50.1	24.2	33.6	38.9	45.5	54.7	21.3	27.2
75 to 84	424	240	184	1,337,545	547,455	790,090	31.7	43.8	23.3	28.7	34.7	38.3	49.4	19.9	26.7
85 & Older	96	49	47	468,178	149,547	318,631	20.5	32.8	14.8	16.4	24.6	23.6	41.9	10.5	19.0
Unknown	3	3	0												
Total	3,759	2,524	1,235	35,233,335	17,694,411	17,538,924	10.7	14.3	7.0	10.3	11.0	13.7	14.8	6.6	7.4
Age-Adjusted							11.5	16.2	7.2	11.1	11.9	15.6	16.9	6.8	7.6
ASIAN/OTHER															
Under 1	0	0	0	69,275	35,440	33,835	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
1 to 4	0	0	0	274,035	140,219	133,816	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
5 to 14	0	0	0	682,107	351,057	331,050	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
15 to 24	0	0	0	626,372	320,815	305,557	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
25 to 34	4	2	2	663,350	335,748	327,602	0.6 *	0.6 *	0.6 *	0.0	1.2	0.0	1.4	0.0	1.5
35 to 44	26	17	9	709,159	345,299	363,860	3.7	4.9 *	2.5 *	2.3	5.1	2.6	7.3	0.9	4.1
45 to 54	49	37	12	596,166	282,159	314,007	8.2	13.1	3.8 *	5.9	10.5	8.9	17.3	1.7	6.0
55 to 64	35	22	13	334,827	159,091	175,736	10.5	13.8	7.4 *	7.0	13.9	8.0	19.6	3.4	11.4
65 to 74	42	17	25	224,875	99,888	124,987	18.7	17.0 *	20.0	13.0	24.3	8.9	25.1	12.2	27.8
75 to 84	19	11	8	131,980	56,160	75,820	14.4 *	19.6 *	10.6 *	7.9	20.9	8.0	31.2	3.2	17.9
85 & Older	8	4	4	41,442	17,481	23,961	19.3 *	22.9 *	16.7 *	5.9	32.7	0.5	45.3	0.3	33.1
Unknown	0	0	0												
Total	183	110	73	4,353,588	2,143,357	2,210,231	4.2	5.1	3.3	3.6	4.8	4.2	6.1	2.5	4.1
Age-Adjusted							4.9	6.2	3.7	4.2	5.6	5.0	7.4	2.8	4.6
BLACK															
Under 1	0	0	0	37,075	18,968	18,107	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
1 to 4	0	0	0	148,109	75,817	72,292	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
5 to 14	0	0	0	413,833	209,845	203,988	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
15 to 24	1	1	0	364,172	192,652	171,520	0.3 *	0.5 *	0.0 +	0.0	0.8	0.0	1.5	-	-
25 to 34	4	2	2	344,312	182,447	161,865	1.2 *	1.1 *	1.2 *	0.0	2.3	0.0	2.6	0.0	2.9
35 to 44	23	14	9	385,985	188,545	197,440	6.0	7.4 *	4.6 *	3.5	8.4	3.5	11.3	1.6	7.5
45 to 54	77	54	23	302,852	142,935	159,917	25.4	37.8	14.4	19.7	31.1	27.7	47.9	8.5	20.3
55 to 64	76	49	27	172,047	79,765	92,282	44.2	61.4	29.3	34.2	54.1	44.2	78.6	18.2	40.3
65 to 74	22	19	3	107,106	47,268	59,838	20.5	40.2 *	5.0 *	12.0	29.1	22.1	58.3	0.0	10.7
75 to 84	18	9	9	61,885	23,844	38,041	29.1 *	37.7 *	23.7 *	15.6	42.5	13.1	62.4	8.2	39.1
85 & Older	1	0	1	18,436	5,511	12,925	5.4 *	0.0 +	7.7 *	0.0	16.1	-	-	0.0	22.9
Unknown	1	1	0												
Total	223	149	74	2,355,812	1,167,597	1,188,215	9.5	12.8	6.2	8.2	10.7	10.7	14.8	4.8	7.6
Age-Adjusted							11.2	16.2	6.9	9.7	12.7	13.5	18.9	5.3	8.5
HISPANIC															
Under 1	0	0	0	272,023	139,031	132,992	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
1 to 4	0	0	0	1,070,328	547,371	522,957	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
5 to 14	0	0	0	2,398,512	1,225,596	1,172,916	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
15 to 24	2	1	1	1,664,220	861,697	802,523	0.1 *	0.1 *	0.1 *	0.0	0.3	0.0	0.3	0.0	0.4
25 to 34	26	23	3	1,767,279	977,600	789,679	1.5	2.4	0.4 *	0.9	2.0	1.4	3.3	0.0	0.8
35 to 44	197	154	43	1,701,500	916,547	784,953	11.6	16.8	5.5	10.0	13.2	14.1	19.5	3.8	7.1
45 to 54	342	283	59	1,050,953	536,610	514,343	32.5	52.7	11.5	29.1	36.0	46.6	58.9	8.5	14.4
55 to 64	255	200	55	532,881	260,356	272,525	47.9	76.8	20.2	42.0	53.7	66.2	87.5	14.8	25.5
65 to 74	206	138	68	331,669	152,519	179,150	62.1	90.5	38.0	53.6	70.6	75.4	105.6	28.9	47.0
75 to 84	102	58	44	172,771	71,849	100,922	59.0	80.7	43.6	47.6	70.5	59.9	101.5	30.7	56.5
85 & Older	19	10	9	58,574	19,479	39,095	32.4 *	51.3 *	23.0 *	17.9	47.0	19.5	83.2	8.0	38.1
Unknown	1	1	0												
Total	1,150	868	282	11,020,710	5,708,655	5,312,055	10.4	15.2	5.3	9.8	11.0	14.2	16.2	4.7	5.9
Age-Adjusted							17.9	27.3	9.1	16.8	19.0	25.3	29.2	8.0	10.2
WHITE															
Under 1	1	0	1	182,626	93,434	89,192	0.5 *	0.0 +	1.1 *	0.0	1.6	-	-	0.0	3.3
1 to 4	0	0	0	750,790	384,136	366,654	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
5 to 14	0	0	0	2,178,191	1,119,910	1,058,281	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
15 to 24	1	0	1	2,098,749	1,091,943	1,006,806	0.0 *	0.0 +	0.1 *	0.0	0.1	-	-	0.0	0.3
25 to 34	24	16	8	2,143,548	1,098,812	1,044,736	1.1	1.5 *	0.8 *	0.7	1.6	0.7	2.2	0.2	1.3
35 to 44	249	146	103	2,968,782	1,505,949	1,462,833	8.4	9.7	7.0	7.3	9.4	8.1	11.3	5.7	8.4
45 to 54	636	417	219	2,724,103	1,363,915	1,360,188	23.3	30.6	16.1	21.5	25.2	27.6	33.5	14.0	18.2
55 to 64	492	335	157	1,822,867	897,116	925,751	27.0	37.3	17.0	24.6	29.4	33.3	41.3	14.3	19.6
65 to 74	446	285	161	1,312,934	616,909	696,025	34.0	46.2	23.1	30.8	37.1	40.8	51.6	19.6	26.7
75 to 84	285	162	123	970,909	395,602	575,307	29.4	41.0	21.4	25.9	32.8	34.6	47.3	17.6	25.2
85 & Older	68	35	33	349,726	107,076	242,650	19.4	32.7	13.6	14.8	24.1	21.9	43.5	9.0	18.2
Unknown	1	1	0												
Total	2,203	1,397	806	17,503,225	8,674,802	8,828,423	12.6	16.1	9.1	12.1	13.1	15.3	16.9	8.5	9.8
Age-Adjusted							10.9	14.5	7.6	10.4	11.3	13.8	15.3	7.1	8.2

Note : Rates are per 100,000 population. ICD-10 codes K70, K73, K74.

White, Black, and Asian/Other exclude Hispanic ethnicity.

Hispanic includes any race category.

The race/ethnic groups in this table were tabulated using the first listed race when certificates included more than one race.

\* Death rate unreliable, relative standard error is greater than or equal to 23 percent.

+ Standard error indeterminate, death rate based on no (zero) deaths.

- Confidence limit is not calculated for no (zero) deaths.

Source : State of California, Department of Finance; 2001 Population: Population Projections by Age, Race/Ethnicity and Sex, December 1998.  
State of California, Department of Health Services, Death Records.

**TABLE 2**  
**CHRONIC LIVER DISEASE AND CIRRHOSIS DEATHS**  
**CALIFORNIA, 1999-2001**  
**(By Place of Residence)**

COUNTY	1999-2001 DEATHS (Average)	PERCENT	2000 POPULATION	CRUDE RATE	AGE-ADJUSTED RATE	95% CONFIDENCE LIMITS	
						LOWER	UPPER
CALIFORNIA	3,659.3	100.0	34,653,395	10.6	11.5	11.1	11.9
ALAMEDA	147.0	4.0	1,470,155	10.0	10.5	8.8	12.2
ALPINE	0.3	0.0 a	1,239	26.9 *	29.4 *	0.0	129.1
AMADOR	4.7	0.1	34,853	13.4 *	11.0 *	0.8	21.2
BUTTE	31.7	0.9	207,158	15.3	14.7	9.5	19.9
CALAVERAS	5.3	0.1	42,041	12.7 *	11.0 *	1.3	20.8
COLUSA	2.3	0.1	20,973	11.1 *	12.6 *	0.0	28.8
CONTRA COSTA	99.3	2.7	931,946	10.7	10.3	8.2	12.3
DEL NORTE	5.0	0.1	31,155	16.0 *	17.0 *	2.0	31.9
EL DORADO	17.3	0.5	163,197	10.6 *	10.0 *	5.3	14.7
FRESNO	92.0	2.5	811,179	11.3	13.5	10.8	16.3
GLENN	4.3	0.1	29,298	14.8 *	15.9 *	0.9	30.9
HUMBOLDT	20.0	0.5	128,419	15.6	15.5	8.7	22.2
IMPERIAL	25.3	0.7	154,549	16.4	21.3	13.0	29.7
INYO	5.3	0.1	18,437	28.9 *	24.3 *	3.2	45.4
KERN	99.0	2.7	677,372	14.6	17.1	13.7	20.5
KINGS	14.3	0.4	126,672	11.3 *	15.7 *	7.5	23.9
LAKE	15.3	0.4	60,072	25.5 *	24.4 *	11.7	37.0
LASSEN	2.7	0.1	35,959	7.4 *	8.2 *	0.0	18.1
LOS ANGELES	1,059.3	28.9	9,838,861	10.8	12.3	11.6	13.0
MADERA	16.0	0.4	126,394	12.7 *	14.3 *	7.3	21.3
MARIN	22.3	0.6	248,397	9.0	8.7	5.1	12.3
MARIPOSA	3.3	0.1	16,762	19.9 *	14.8 *	0.0	30.8
MENDOCINO	12.3	0.3	90,442	13.6 *	13.2 *	5.8	20.6
MERCED	24.0	0.7	215,256	11.1	14.1	8.4	19.8
MODOC	2.3	0.1	10,481	22.3 *	21.1 *	0.0	48.9
MONO	1.7	0.0 a	10,891	15.3 *	14.4 *	0.0	37.5
MONTEREY	39.7	1.1	401,886	9.9	11.5	7.9	15.1
NAPA	18.7	0.5	127,084	14.7 *	13.2 *	7.2	19.3
NEVADA	10.7	0.3	97,020	11.0 *	9.2 *	3.5	14.8
ORANGE	231.7	6.3	2,833,190	8.2	9.3	8.1	10.5
PLACER	24.0	0.7	243,646	9.9	9.4	5.6	13.2
PLUMAS	3.0	0.1	20,852	14.4 *	14.1 *	0.0	30.4
RIVERSIDE	197.3	5.4	1,570,885	12.6	13.4	11.5	15.3
SACRAMENTO	128.3	3.5	1,212,527	10.6	11.2	9.2	13.1
SAN BENITO	6.3	0.2	51,853	12.2 *	13.9 *	3.1	24.7
SAN BERNARDINO	182.0	5.0	1,727,452	10.5	13.1	11.2	15.1
SAN DIEGO	260.0	7.1	2,943,001	8.8	10.6	9.3	11.9
SAN FRANCISCO	92.3	2.5	792,049	11.7	10.2	8.1	12.2
SAN JOAQUIN	71.7	2.0	579,712	12.4	13.7	10.6	16.9
SAN LUIS OBISPO	23.0	0.6	254,818	9.0	9.4	5.5	13.3
SAN MATEO	55.7	1.5	747,061	7.5	7.1	5.2	9.0
SANTA BARBARA	42.3	1.2	412,071	10.3	10.9	7.6	14.2
SANTA CLARA	148.7	4.1	1,763,252	8.4	9.1	7.6	10.5
SANTA CRUZ	26.7	0.7	260,248	10.2	10.4	6.4	14.4
SHASTA	24.7	0.7	175,777	14.0	13.2	8.0	18.5
SIERRA	0.3	0.0 a	3,457	9.6 *	5.4 *	0.0	23.9
SISKIYOU	7.7	0.2	45,194	17.0 *	14.5 *	4.1	24.8
SOLANO	41.7	1.1	399,841	10.4	11.7	8.1	15.3
SONOMA	47.3	1.3	459,258	10.3	9.8	7.0	12.5
STANISLAUS	58.3	1.6	459,025	12.7	14.3	10.7	18.0
SUTTER	8.7	0.2	82,040	10.6 *	10.4 *	3.5	17.3
TEHAMA	8.7	0.2	56,666	15.3 *	15.3 *	5.0	25.6
TRINITY	1.7	0.0 a	13,490	12.4 *	9.9 *	0.0	24.9
TULARE	50.3	1.4	379,944	13.2	16.1	11.6	20.5
TUOLUMNE	8.0	0.2	56,125	14.3 *	12.3 *	3.7	21.0
VENTURA	75.3	2.1	753,820	10.0	10.7	8.2	13.1
YOLO	21.3	0.6	164,010	13.0	16.5	9.4	23.5
YUBA	10.7	0.3	63,983	16.7 *	19.9 *	7.9	31.8

Note : Rates are per 100,000 population. ICD-10 codes K70, K73, K74.

\* Death rate unreliable, relative standard error is greater than or equal to 23 percent.

a Represents a percentage of more than zero but less than 0.05.

Source : State of California, Department of Finance; 2000 Population: Population Projections by Age, Race/Ethnicity and Sex, December 1998.

State of California, Department of Health Services, Death Records.